REMARKS

This is intended as a full and complete response to the Office Action dated October 15, 2003, having a shortened statutory period for response set to expire on January 15, 2004. Please reconsider the claims pending in the application for reasons discussed below.

OBJECTIONS TO THE DRAWINGS

A. 37 C.F.R. 1.84 FIGS. 1, 3 and 6

1. FIG. 1

FIG. 1 stands objected to under 37 C.F.R. 1.84(p)(5). Specifically, the Examiner asserts that the reference numeral 152 included in FIG. 1 is not mentioned in the specification. The Applicants respectfully submit that FIG. 1 was amended in the communication filed on July 22, 2003 to delete reference numeral 152. Furthermore, a replacement sheet for FIG. 1 was provided with the communication. Accordingly, the Applicants respectfully request that the objection to FIG. 1 be withdrawn.

2. FIG. 3

FIG. 3 stands objected to under 37 C.F.R. 1.84(p)(5). Specifically, the Examiner makes two assertions regarding FIG. 3: (i) that the reference numeral 350 included FIG. 3 is not mentioned in the specification; and (ii) that the reference numeral 350a mentioned in the specification does not appear in the drawings.

Regarding the Examiner's first assertion, the Applicants respectfully submit that FIG. 3 was amended in the communication filed on July 22, 2003 to replace the reference numeral 350 with the numeral 350a. Furthermore, a replacement sheet for FIG. 3 was provided with the communication.

Regarding the Examiner's second assertion, the Applicants respectfully direct the Examiner's attention to FIG. 3, in which the reference numeral 350a

indicates a nozzle located above left aperture 348. Furthermore, pursuant to the above-described amendment, a second nozzle located above the right aperture 348 has also been labeled 350a.

Accordingly, the Applicants respectfully request that the objection to FIG. 3 be withdrawn.

3. FIG. 6

FIG. 6 stands objected to under 37 C.F.R. 1.84(p)(5). Specifically, the Examiner asserts that the reference numeral 132 included in FIG. 6 is not mentioned in the specification. The Applicants respectfully submit that FIG. 6 was amended in the communication filed on July 22, 2003 to delete reference numeral 132. Furthermore, a replacement sheet for FIG. 6 was provided with the communication. Accordingly, the Applicants respectfully request that the objection to FIG. 6 be withdrawn.

OBJECTIONS TO THE SPECIFICATION

The disclosure is objected to for informalities. Specifically, the Examiner alleges that the reference numeral "332" has been used to designate both a "mating coupling" in paragraph [0039] and a "throttle valve" in paragraph [0059]. The Applicants respectfully submit that paragraph [0059] was amended in the communication filed July 22, 2003 to delete the reference numeral "332" as a designation for the throttle valve. Accordingly, the Applicants respectfully request that the objection to the specification be withdrawn.

CLAIM REJECTIONS

A. 35 U.S.C. §112 Claims 36-39

Claims 36-39 stand rejected under 35 U.S.C. §112. Specifically, the Examiner asserts that there is no support in the specification for "a center member for substantially covering a bottom of the chamber", as recited by independent claim 36 and independent claim 37, from which claims 38 and 39

depend. In response, the Applicants have amended claims 36 and 37 to recite a center member that substantially covers "an upper surface" of the chamber, replacing "a bottom" of the chamber. This amendment is supported by paragraph [0033] and FIG. 3, which describe a liner 134 having a center section 310 with a cylindrical liner wall 318 extending downward from a bottom surface 316 thereof.

Furthermore, the Examiner asserts that claim 38 is indefinite because it is unclear how a center member used for covering the bottom of the chamber can be disposed proximate the lid which is used for covering the top of the chamber. The Applicants respectfully submit that this rejection is moot in light of the amendment to claim 37, from which claim 38 depends, in which a center member for covering "an upper surface" of the chamber is recited.

Accordingly, the Applicants respectfully request that the rejection to claims 36-39 be withdrawn.

B. 35 U.S.C. §102(a) Claims 36-37

Pu et al.

1. Claim 36

Claim 36 stands rejected under 35 U.S.C. §102(a) as being unpatentable over PCT Application No. WO 99/48130, published September 22, 1999 to *Pu et al.* (hereinafter referred to as "*Pu*"). The Applicants respectfully disagree.

Pu does not teach, show or suggest all of the limitations of independent claim 36. *Pu* teaches a plasma processing chamber having a cylindrical sidewall, a circular bottom wall and a circular lid that together seal a processing volume. The lid includes an array of induction coils that produce an RF electromagnetic field in the processing volume for enhancing plasma density. Because the lid tends to absorb heat from the plasma and/or from the coils, the lid (*i.e.*, a portion of the chamber body, not a liner for the lid) may further include channels through which a dielectric cooling fluid can be pumped to regulate the lid temperature. *Pu* does not illustrate these channels or disclose any preferred

shape, structure, size or number for the channels. One side of the lid is exposed to the processing region within the chamber; however, this side of the lid is not further coupled to additional components (*e.g.*, walls or flanges).

Pu therefore does not teach, show or suggest an apparatus for lining a processing region including a clyndrical section adapted to line at least a portion of the chamber walls, a center section coupled to one end of the cylindrical section, the cylindrical section and the center section being exposed to the processing region and comprising a single piece structure, and a substantially annular passage at least partially formed in a center member adapted for substantially covering an upper surface of a processing chamber, as recited by independent claim 36 as amended.

Thus, independent claim 36 is patentable over *Pu*. Accordingly, the Applicants respectfully request that the rejection to claim 36 be withdrawn.

2. Claim 37

Claim 37 stands rejected under 35 U.S.C. §102(a) as being unpatentable over *Pu*. The Applicants respectfully disagree.

Pu does not teach, show or suggest all of the limitations of independent claim 37; namely, *Pu* does not teach, show or suggest an apparatus for lining a processing region including a center member for substantially covering an upper surface of the chamber, the center member having a first side adapted to be exposed to the processing region, a cylindrical wall extending from the first side of the center member and adapted to line at least a portion of the walls of the processing chamber a substantially annular passage at least partially formed in a center member adapted for substantially covering an upper surface of a processing chamber, as recited by independent claim 37.

Thus, independent claim 37 is patentable over *Pu*. Accordingly, the Applicants respectfully request that the rejection to claim 37 be withdrawn.

C. 35 U.S.C. §103(a) Claims 1-3, 5, 7-12, 14-17, 20-23, 25-26, 28-31 and 33-39

Shan et al.* in view of *Lee

1. Claims 1-3 and 5

Claims 1-3 and 5 stand rejected under 35 U.S.C. §103(a) as being unpatentable over European Patent Application No. EP 0 814 495, published December 29, 1997 to *Shan et al.* (hereinafter referred to as "*Shan*") in view of United States Patent No. 5,616,208, issued April 1, 1997 to *Lee* (hereinafter referred to as "*Lee*". The Applicants respectfully disagree.

The burden for establishing a prima facie case of obviousness falls on the Examiner. *See*, MPEP §2142. A basic requirement of establishing a prima facie case of obviousness is that the combination of prior art references must teach or suggest all the claim limitations and that there must be a motivation to combine the references. *See*, MPEP §2143. Furthermore, the rules applicable for combining references provide that there must be a suggestion from within the references to make the combination. *Uniroyal v. Rudkin-Wiley*, 5 U.S.P.Q. 2d 1434, 1438 (Fed. Cir. 1988); *In re Fine*, 5 U.S.P.Q. 2d at 1599. Additionally, MPEP § 2141.03 requires the Examiner to consider the prior art in its entirety. "A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention". MPEP §2141.03, *W.L. Gore & Associates, Inc., v. Garlock, Inc.*, 721 F.2d 1540, 220 USPQ 303 (Fed Cir. 1983), cert. denied, 469 U.S. 851 (1984).

Shan and *Lee* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 1, from which claims 2-3 and 5 depend. *Shan* teaches a plasma processing chamber having a pair of shields that prevent film from depositing on the walls of the chamber. A generally cylindrical dielectric anode shield lines the sidewalls of a chamber from lid to bottom and further comprises an annular lip at an upper end that projects radially outward to rest upon the upper edge of the chamber wall and support the weight of the anode shield. The lip also protrudes partially radially inward to create a rim

or aperture having a diameter at least large enough to accommodate a gas distribution plate (*i.e.*, the anode shield does not line the chamber lid). A dielectric cathode shield is spaced radially inward from the anode shield and extends from a cathode (*e.g.*, a substrate support) to a chamber bottom. Contrary to the Examiner's statements, *Shan* does not disclose "a passage 23 in the inner wall". Passage 23 is disposed through, the outer wall, not in the liner inner wall. As the Examiner acknowledges, the "inlet" and "outlet" of passage 23 are not "fluidly isolated from the processing volume", but are open to the processing volume. Furthermore, passage 23 is not annular. All of these elements are required by claim 1.

The Examiner cited *Lee* as supplying the deficiencies of *Shan*. *Lee* teaches a processing chamber comprising a bottom, a plurality of side walls and a top. A first "medium" path is formed throughout a portion of a gas supply header, and a second "medium" path is formed in the chamber side walls and bottom. *Lee* does not disclose fluid passages in a chamber liner having a base and inner liner wall.

Thus, there is no teaching, showing or suggestion of all of the limitations of claim 1, and there is no motivation to combine *Shan* and *Lee* in a manner that would teach, show or suggest a chamber liner having a base for substantially covering a bottom of the chamber, an inner wall connected to the base and a substantially annular passage formed in the base, the inner wall or the base and the inner wall of the liner, the passage being adapted to circulate a fluid therethrough, as recited by independent claim 1. Both *Shan* and *Lee* teach means for preventing deposition on chamber walls, either by covering the walls with a shield or by cooling the walls themselves from within by forming fluid channels inside the walls. *Shan* and *Lee* do not, individually or in combination, teach, show or suggest including channels in a liner lining the walls, which prevents deposition on the liner. Including channels in the wall does not prevent deposition on the liner. Rather, *Shan* encourages deposition on the liner instead of the wall. The Examiner is therefore using hindsight to combine *Shan* and *Lee* to teach a liner having channels that prevent deposition on the liner.

Thus, independent claim 1, and claims 2-3 and 5 that depend therefrom, are patentable over *Shan* in view of *Lee*. Accordingly, the Applicants respectfully request that the rejection to claims 1-3 and 5 be withdrawn.

2. Claims 7-10

Claims 7-10 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Shan* in view of *Lee*. The Applicants respectfully disagree.

Shan and *Lee* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 7, from which claims 8-10 depend. Neither *Shan* nor *Lee* discloses a lid liner, much less a liner having an annular passage for circulating fluid. Thus, there is no motivation to combine *Shan* and *Lee* in a manner that would teach, show or suggest a chamber liner having a center member, a flange circumscribing the center member, a cylindrical wall projecting upward from the center member inside of the flange, and a substantially annular passage formed in the center member and having an inlet and an outlet adapted to circulate a fluid therethrough, as recited by independent claim 7.

Thus, independent claim 7, and claims 8-10 that depend therefrom, are patentable over *Shan* in view of *Lee*. Accordingly, the Applicants respectfully request that the rejection to claims 7-10 be withdrawn.

3. Claims 11-12, 14-17 and 20-23

Claims 11-12, 14-17 and 20-23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Shan* in view of *Lee*. The Applicants respectfully disagree.

Shan and *Lee* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 11, from which claims 12, 14-17 and 20-23 depend. There is no suggestion or motivation to combine *Shan* and *Lee* in a manner that would teach, show or suggest a chamber liner adapted to be removably disposed in a processing region and having a base for substantially covering the bottom of the processing chamber and a passage

formed at least partially in the base (of the liner) and adapted to fluidly isolate a heat transfer fluid flowing therethrough from the processing region, as recited by independent claim 11.

Thus, independent claim 11, and claims 12, 14-17 and 20-23 that depend therefrom, are patentable over *Shan* in view of *Lee*. Accordingly, the Applicants respectfully request that the rejection to claims 11-12, 14-17 and 20-23 be withdrawn.

4. Claims 25-26 and 28-31

Claims 25-26 and 28-31 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Shan* in view of *Lee*. The Applicants respectfully disagree.

Shan and *Lee* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 25, from which claims 26 and 28-31 depend. There is no motivation to combine *Shan* and *Lee* in a manner that would teach, show or suggest a chamber liner having an annular base for substantially covering the bottom of the processing chamber, a first cylindrical wall extending from a perimeter of the base, and a substantially annular passage formed at least partially in the base (of the liner), as recited by independent claim 25.

Thus, independent claim 25, and claims 26 and 28-31 that depend therefrom, are patentable over *Shan* in view of *Lee*. Accordingly, the Applicants respectfully request that the rejection to claims 25-26 and 28-31 be withdrawn.

5. Claims 33-35

Claims 33-35 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Shan* in view of *Lee*. The Applicants respectfully disagree.

Shan and *Lee* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 33, from which claims 34-35 depend. There is no motivation to combine *Shan* and *Lee* in a manner that would teach, show or suggest a chamber liner having an annular base for substantially covering the bottom of the processing chamber, a first cylindrical

wall coupled to an outer portion of the base for extending into the processing region along the sidewalls of the chamber, a second cylindrical wall coupled to an inner portion of the base for extending into the processing region along a substrate support positioned therein, and a substantially annular passage formed at least partially in the base (of the liner), as recited by independent claim 33.

Thus, independent claim 33, and claims 34-35 that depend therefrom, are patentable over *Shan* in view of *Lee*. Accordingly, the Applicants respectfully request that the rejection to claims 33-35 be withdrawn.

6. Claim 36

Claim 36 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Shan* in view of *Lee*. The Applicants respectfully disagree.

Shan and *Lee* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 36. There is no suggestion or motivation to combine *Shan* and *Lee* in a manner that would teach, show or suggest a chamber liner having a cylindrical wall adapted to line at least a portion of the walls of the chamber, a center section coupled to one end of the cylindrical wall for substantially covering an upper surface of the chamber, and a substantially annular passage at least partially formed in the center section (of the liner), as recited by independent claim 36.

Thus, independent claim 36 is patentable over *Shan* in view of *Lee*. Accordingly, the Applicants respectfully request that the rejection to claim 36 be withdrawn.

7. Claims 37-39

Claims 37-39 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Shan* in view of *Lee*. The Applicants respectfully disagree.

Shan and *Lee* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 37, from which claims 38-39 depend. There is no motivation to combine *Shan* and *Lee* in a manner that would teach, show or suggest a chamber liner having a center member for

substantially covering an upper surface of the chamber, the center member having a first side adapted to be exposed to the processing region, a cylindrical wall extending from the center member and adapted to line at least a portion of the walls of the chamber, and a substantially annular passage formed at least partially in the center member (of the liner), as recited by independent claim 37.

Thus, independent claim 37, and claims 38-39 that depend therefrom, are patentable over *Shan* in view of *Lee*. Accordingly, the Applicants respectfully request that the rejection to claims 37-39 be withdrawn.

D. 35 U.S.C. §103(a) Claims 4 and 18-19
Shan* in view of *Lee* and further in view of *Collins et al.

1. Claim 4

Claim 4 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Shan* in view of *Lee* and further in view of European Patent Application No. EP 0 807 953, published November 19, 1997 to *Collins et al* (hereinafter referred to as "*Collins*"). The Applicants respectfully disagree.

Collins teaches a plasma processing chamber having an interior volume within which a pedestal is disposed. An annular passage is formed around the circumference of the pedestal and is connected to a pumping annulus that is adapted to evacuate the chamber. A pair of magnets is disposed within the walls of the chamber, and not within an inner liner, on opposite sides of the annular passage. The magnets are adapted to confine the plasma to prevent plasma flow from escaping the chamber and entering the pumping annulus. Thus, whereas *Shan* and *Lee* are concerned with reducing the amount of plasma deposition on the walls and/or pedestal of the chamber, *Collins* is concerned with confining the plasma deposition area to prevent plasma from traveling to certain portions of the chamber (*i.e.*, prevent plasma from escaping the chamber or depositing on ports to the chamber exterior). Therefore, the magnets taught by

Collins would not necessarily provide any benefit to or enhancement of the advantages sought by the teachings of *Shan* and *Lee*.

As discussed above, *Shan* and *Lee* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 1, from which claim 4 depends. Furthermore, there is no motivation to combine *Shan, Lee* and *Collins* in a manner that would teach, show or suggest a chamber liner having a base for substantially covering a bottom of the chamber, an inner wall connected to the base, a substantially annular passage formed in the base, the inner wall or the base and the inner wall of the liner, the passage being adapted to circulate a fluid therethrough, and a magnet disposed in the inner wall of the liner, as recited by claim 4.

Thus, claim 4 is patentable over *Shan* in view of *Lee* and further in view of *Collins*. Accordingly, the Applicants respectfully request that the rejection to claim 4 be withdrawn.

2. Claims 18-19

Claims 18-19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Shan* in view of *Lee* and further in view of *Collins*. The Applicants respectfully disagree.

As discussed above, *Shan* and *Lee* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 11, from which claims 18-19 depend. Furthermore, there is no motivation to combine *Shan, Lee* and *Collins* in a manner that would teach, show or suggest a chamber liner adapted to be removably disposed in a processing region and having a base for substantially covering the bottom of the processing chamber, a passage formed at least partially in the base (of the liner) and adapted to fluidly isolate a heat transfer fluid flowing therethrough from the processing region, and a cylindrical wall comprising a magnet disposed therein (*i.e.*, in the cylindrical wall of the liner), as recited by claim 18. Likewise, there is no motivation to combine *Shan, Lee* and *Collins* in a manner that would teach, show or suggest that the

cylindrical wall comprises a lip extending into the process volume and a magnet disposed therein, as recited by claim 19.

Thus, claims 18-19 are patentable over *Shan* in view of *Lee* and further in view of *Collins*. Accordingly, the Applicants respectfully request that the rejection to claims 18-19 be withdrawn.

E. 35 U.S.C. §103(a) Claims 6, 13 and 27
Shan* in view of *Lee* and further in view of *Reimold

1. Claim 6

Claim 6 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Shan* in view of *Lee* and further in view of German Patent No. DE 31 10489, published October 20, 1982 to *Reimold* (hereinafter referred to as "*Reimold*"). The Applicants respectfully disagree.

Reimold teaches a heat exchanger comprising a jacket tube that supports a housing ring on each end. Each housing ring has on its circumference a number of bosses for providing a connection for the supply or removal of a heat exchanging medium. One of the bosses is further adapted to engage a connecting bore. *Shan* and *Lee*, as discussed, do not teach the use of a mechanical heat exchanger *per se* in a processing chamber. Rather, *Lee* teaches a simple passage formed in a wall of a chamber for flowing a heat exchanging fluid therethrough. As the heating exchanging fluid is confined to the passage, there is little need for a heat exchanger such as that described by *Reimold*, in which a plurality of bosses are provided for establishing a plurality of connection to other components. Therefore, the heat exchanger taught by *Reimold* would not necessarily provide any benefit to or enhancement of the advantages sought by the teachings of *Shan* and *Lee*.

As discussed above, *Shan* and *Lee* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 1, from which claim 6 depends. Furthermore, there is no motivation to combine *Shan*, *Lee* and

Reimold in a manner that would teach, show or suggest a chamber liner having a base for substantially covering a bottom of the chamber, an inner wall connected to the base, a substantially annular passage formed in the base, the inner wall or the base and the inner wall of the liner, the passage being adapted to circulate a fluid therethrough, and a first and second bosses projecting from the base, the first boss comprising a hole in fluid communication with the passage at an inlet and the second boss comprising a hole in fluid communication with the passage at an outlet, as recited by claim 6.

Thus, claim 6 is patentable over *Shan* in view of *Lee* and further in view of *Reimold*. Accordingly, the Applicants respectfully request that the rejection to claim 6 be withdrawn.

2. Claim 13

Claim 13 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Shan* in view of *Lee* and further in view of *Reimold*. The Applicants respectfully disagree.

Shan and *Lee* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 11, from which claim 13 depends. Furthermore, there is no motivation to combine *Shan*, *Lee* and *Reimold* in a manner that would teach, show or suggest a chamber liner adapted to be removably disposed in a processing region and having a base for substantially covering the bottom of the processing chamber, a passage formed at least partially in the base (of the liner) and adapted to fluidly isolate a heat transfer fluid flowing therethrough from the processing region, and a first and second bosses projecting from the base, the first boss comprising a hole in fluid communication with the passage at an inlet and the second boss comprising a hole in fluid communication with the passage at an outlet, as recited by claim 13.

Thus, claim 13 is patentable over *Shan* in view of *Lee* and further in view of *Reimold*. Accordingly, the Applicants respectfully request that the rejection to claim 13 be withdrawn.

3. Claim 27

Claim 27 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Shan* in view of *Lee* and further in view of *Reimold*. The Applicants respectfully disagree.

Shan and *Lee* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 25, from which claim 27 depends. Furthermore, there is no motivation to combine *Shan*, *Lee* and *Reimold* in a manner that would teach, show or suggest a chamber liner having an annular base for substantially covering the bottom of the processing chamber, a first cylindrical wall extending from a perimeter of the base, a substantially annular passage formed at least partially in the base (of the liner) adapted to fluidly isolate a heat transfer fluid flowing therethrough from the processing region, and a first and second bosses projecting from the base, the first boss comprising a hole in fluid communication with the passage at an inlet and the second boss comprising a hole in fluid communication with the passage at an outlet, as recited by claim 27.

Thus, claim 27 is patentable over *Shan* in view of *Lee* and further in view of *Reimold*. Accordingly, the Applicants respectfully request that the rejection to claim 27 be withdrawn.

F. 35 U.S.C. §103(a) Claims 24 and 32
Shan* in view of *Lee* and further in view of *Banholzer et al.

1. Claim 24

Claim 24 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Shan* in view of *Lee* and further in view of United States Patent No. 5,565,058, issued October 15, 1996 to *Banholzer et al.* (hereinafter referred to as "*Banholzer*"). The Applicants respectfully disagree.

Banholzer teaches an assembly comprising a lid, a door and a shield for a processing chamber. The lid, door and shield are bead blasted to make the surfaces slightly irregular or roughened. The surface irregularities increase the

adhesion of process materials deposited thereon. Thus, *Banholzer* actually teaches away from *Lee*, as *Lee* teaches a means to prevent or reduce reaction product deposition on a portion of a chamber body, and *Banholzer* actually teaches a means to increase reaction product adhesion to a shield or lid.

As discussed above, *Shan* and *Lee* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 11, from which claim 24 depends. Furthermore, there is no motivation to combine *Shan, Lee* and *Banholzer* in a manner that would teach, show or suggest a chamber liner having an annular base for substantially covering the bottom of the processing chamber, a first cylindrical wall extending from a perimeter of the base, and a substantially annular passage formed at least partially in the base (of the liner), wherein the liner comprises a textured interior surface adapted to be exposed to the interior volume, as recited by claim 24.

Thus, claim 24 is patentable over *Shan* in view of *Lee* and further in view of *Banholzer*. Accordingly, the Applicants respectfully request that the rejection to claim 24 be withdrawn.

2. Claim 32

Claim 32 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Shan* in view of *Lee* and further in view of *Banholzer*. The Applicants respectfully disagree.

As discussed above, *Shan* and *Lee* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 25, from which claim 32 depends. Furthermore, there is no motivation to combine *Shan, Lee* and *Banholzer* in a manner that would teach, show or suggest a chamber liner having an annular base for substantially covering the bottom of the processing chamber, a first cylindrical wall extending from a perimeter of the base, a substantially annular passage formed at least partially in the base (of the liner) adapted to fluidly isolate a heat transfer fluid flowing therethrough from the processing region, wherein the first cylindrical wall comprises a textured interior surface adapted to be exposed to the interior volume, as recited by claim 32.

Thus, claim 32 is patentable over *Shan* in view of *Lee* and further in view of *Banholzer*. Accordingly, the Applicants respectfully request that the rejection to claim 32 be withdrawn.

G. 35 U.S.C. §103(a) Claims 1-3, 5, 11-12, 14-17, 20-23, 25-26, 28-31 and 33-39

Shan* in view of *Masuda et al.

1. Claims 1-3 and 5

Claims 1-3 and 5 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Shan* in view of United States Patent No. 5,171,438, issued December 9, 2001 to *Masuda et al.* (hereinafter referred to as "*Masuda*)". The Applicants respectfully disagree.

Shan and *Masuda* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 1, from which claims 2-3 and 5 depend. *Masuda* teaches a plasma processing chamber having a hollow jacket held adjacent a sidewall for controlling the temperature of the side wall's inner surface so that polymerized material is drawn onto the jacket's surface to form a film. The jacket is coupled to a pipe or line 104 that extends from outside of the chamber and through the sidewall to supply a heat-exchanging medium into a hollow space in the jacket. It is unclear how or if the heat-exchanging medium can be evacuated from the hollow space in the jacket – *Masuda* does not disclose a means for doing so. In fact, it appears that the heat-exchanging medium is supplied to the jacket and then remains there until or unless the jacket is removed from the chamber.

Thus, there is no motivation to combine *Shan* and *Masuda* in a manner that would teach, show or suggest a chamber liner having a base for substantially covering a bottom of the chamber, an inner wall connected to the base and extending upward from the inner side of the base and a substantially annular passage formed in the base, the inner wall or the base and the inner wall

of the liner, the passage having an inlet and an outlet adapted to circulate a fluid therethrough, as recited by independent claim 1.

Furthermore, the jacket taught by *Masuda* is provided a heat exchanging medium by means of a pipe that extends through a sidewall of the chamber from an outside environment. Such a medium supply means is only effective for providing the medium to a jacket disposed against the sidewall. In order to similarly provide the heat exchanging medium to an inner liner wall that is disposed against a substrate support, the pipe would have to extend not only through the sidewall, but through a portion of the processing volume. Thus, the pipe could interfere with other chamber components and would be subjected to plasma and other processing materials that may corrode the pipe, leading to wear and/or failure of the liner system.

Thus, independent claim 1, and claims 2-3 and 5 that depend therefrom, are patentable over *Shan* in view of *Masuda*. Accordingly, the Applicants respectfully request that the rejection to claims 1-3 and 5 be withdrawn.

2. Claims 7-10

Claims 7-10 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Shan* in view of *Masuda*. The Applicants respectfully disagree.

Shan and *Masuda* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 7, from which claims 8-10 depend. There is no suggestion or motivation to combine *Shan* and *Masuda* in a manner that would teach, show or suggest a chamber liner having a center member, a flange circumscribing the center member, a cylindrical wall projecting upward from the center member inside of the flange, and a substantially annular passage formed in the center member and having an inlet and an outlet adapted to circulate a fluid therethrough, as recited by independent claim 7.

Thus, independent claim 7, and claims 8-10 that depend therefrom, are patentable over *Shan* in view of *Masuda*. Accordingly, the Applicants respectfully request that the rejection to claims 7-10 be withdrawn.

3. Claims 11-12, 14-17 and 20-23

Claims 11-12, 14-17 and 20-23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Shan* in view of *Masuda*. The Applicants respectfully disagree.

Shan and *Masuda* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 11, from which claims 12, 14-17 and 20-23 depend. There is no suggestion or motivation to combine *Shan* and *Masuda* in a manner that would teach, show or suggest a chamber liner adapted to be removably disposed in a processing region and having a base for substantially covering the bottom of the processing chamber and a passage formed at least partially in the base (of the liner) and adapted to fluidly isolate a heat transfer fluid flowing therethrough from the processing region, as recited by independent claim 11.

Thus, independent claim 11, and claims 12, 14-17 and 20-23 that depend therefrom, are patentable over *Shan* in view of *Masuda*. Accordingly, the Applicants respectfully request that the rejection to claims 11-12, 14-17 and 20-23 be withdrawn.

4. Claims 25-26 and 28-31

Claims 25-26 and 28-31 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Shan* in view of *Masuda*. The Applicants respectfully disagree.

Shan and *Masuda* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 25, from which claims 26 and 28-31 depend. There is no motivation to combine *Shan* and *Masuda* in a manner that would teach, show or suggest a chamber liner having an annular base for substantially covering the bottom of the processing chamber, a first cylindrical wall extending from a perimeter of the base, and a substantially annular passage formed at least partially in the base (of the liner), as recited by independent claim 25.

Thus, independent claim 25, and claims 26 and 28-31 that depend therefrom, are patentable over *Shan* in view of *Masuda*. Accordingly, the Applicants respectfully request that the rejection to claims 25-26 and 28-31 be withdrawn.

5. Claims 33-35

Claims 33-35 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Shan* in view of *Masuda*. The Applicants respectfully disagree.

Shan and *Masuda* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 33, from which claims 34-35 depend. There is no motivation to combine *Shan* and *Masuda* in a manner that would teach, show or suggest a chamber liner having an annular base for substantially covering the bottom of the processing chamber, a first cylindrical wall coupled to an outer portion of the base for extending into the processing region along the sidewalls of the chamber, a second cylindrical wall coupled to an inner portion of the base for extending into the processing region along a substrate support positioned therein, and a substantially annular passage formed at least partially in the base (of the liner), as recited by independent claim 33.

Thus, independent claim 33, and claims 34-35 that depend therefrom, are patentable over *Shan* in view of *Masuda*. Accordingly, the Applicants respectfully request that the rejection to claims 33-35 be withdrawn.

6. Claim 36

Claim 36 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Shan* in view of *Masuda*. The Applicants respectfully disagree.

Shan and *Masuda* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 36. There is no motivation to combine *Shan* and *Masuda* in a manner that would teach, show or suggest a chamber liner having a cylindrical wall adapted to line at least a portion of the walls of the chamber, a center section coupled to one end of the cylindrical wall

for substantially covering an upper surface of the chamber, and a substantially annular passage at least partially formed in the center section (of the liner), as recited by independent claim 36.

Thus, independent claim 36 is patentable over *Shan* in view of *Masuda*. Accordingly, the Applicants respectfully request that the rejection to claim 36 be withdrawn.

7. Claims 37-39

Claims 37-39 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Shan* in view of *Masuda*. The Applicants respectfully disagree.

Shan and *Masuda* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 37, from which claims 38-39 depend. There is no motivation to combine *Shan* and *Masuda* in a manner that would teach, show or suggest a chamber liner having a center member for substantially covering an upper surface of the chamber, the center member having a first side adapted to be exposed to the processing region, a cylindrical wall extending from the center member and adapted to line at least a portion of the walls of the chamber, and a substantially annular passage formed at least partially in the center member (of the liner), as recited by independent claim 37.

Thus, independent claim 37, and claims 38-39 that depend therefrom, are patentable over *Shan* in view of *Masuda*. Accordingly, the Applicants respectfully request that the rejection to claims 37-39 be withdrawn.

H. 35 U.S.C. §103(a) Claims 4 and 18-19
Shan* in view of *Masuda* and further in view of *Collins

1. Claim 4

Claim 4 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Shan* in view of *Masuda* and further in view of *Collins*. The Applicants respectfully disagree.

As discussed above, where *Shan* and *Masuda* are concerned with reducing the amount of plasma deposition on the walls and/or pedestal of the chamber, *Collins* is concerned with confining the plasma deposition area to prevent plasma from traveling to certain portions of the chamber (*i.e.*, prevent plasma from escaping the chamber or depositing on ports to the chamber exterior). Therefore, the magnets taught by *Collins* would not necessarily provide any benefit to or enhancement of the advantages sought by the teachings of *Shan* and *Masuda*.

As discussed above, *Shan* and *Masuda* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 1, from which claim 4 depends. Furthermore, there is no motivation to combine *Shan, Masuda* and *Collins* in a manner that would teach, show or suggest a chamber liner having a base for substantially covering a bottom of the chamber, an inner wall connected to the base and extending upward, a substantially annular passage formed in the base, the inner wall or the base and the inner wall of the liner, the passage having an inlet and an outlet adapted to circulate a fluid therethrough, and a magnet disposed in the inner wall of the liner, as recited by claim 4.

Thus, claim 4 is patentable over *Shan* in view of *Masuda* and further in view of *Collins*. Accordingly, the Applicants respectfully request that the rejection to claim 4 be withdrawn.

2. Claims 18-19

Claims 18-19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Shan* in view of *Masuda* and further in view of *Collins*. The Applicants respectfully disagree.

As discussed above, *Shan* and *Masuda* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 11, from which claims 18-19 depend. Furthermore, there is no motivation to combine *Shan, Masuda* and *Collins* in a manner that would teach, show or suggest a chamber liner adapted to be removably disposed in a processing

region and having a base for substantially covering the bottom of the processing chamber, a passage formed at least partially in the base (of the liner) and adapted to fluidly isolate a heat transfer fluid flowing therethrough from the processing region, and a cylindrical wall comprising a magnet disposed therein (*i.e.*, in the cylindrical wall of the liner), as recited by claim 18. Likewise, there is no motivation to combine *Shan*, *Masuda* and *Collins* in a manner that would teach, show or suggest that the cylindrical wall comprises a lip extending into the process volume and a magnet disposed therein, as recited by claim 19.

Thus, claims 18-19 are patentable over *Shan* in view of *Masuda* and further in view of *Collins*. Accordingly, the Applicants respectfully request that the rejection to claims 18-19 be withdrawn.

I. 35 U.S.C. §103(a) Claims 6, 13 and 27
Shan* in view of *Masuda* and further in view of *Reimold

1. Claim 6

Claim 6 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Shan* in view of *Masuda* and further in view of *Reimold*. The Applicants respectfully disagree.

As discussed above, *Shan* and *Masuda* do not teach the use of a mechanical heat exchanger *per se* in a processing chamber. Rather, *Masuda* teaches a simple hollow space formed in a jacket and coupled to a single pipe for filling with a heat exchanging fluid. As the heating exchanging fluid is confined to the jacket, and, in fact, it appears to remain therein (rather than exit through an outlet), there is little need for a heat exchanger such as that described by *Reimold*, in which a plurality of bosses are provided for establishing a plurality of connection to other components. Therefore, the heat exchanger taught by *Reimold* would not necessarily provide any benefit to or enhancement of the advantages sought by the teachings of *Shan* and *Masuda*.

As discussed above, *Shan* and *Masuda* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 1,

from which claim 6 depends. Furthermore, there is no motivation to combine *Shan, Masuda* and *Reimold* in a manner that would teach, show or suggest a chamber liner having a base for substantially covering a bottom of the chamber, an inner wall connected to the base and extending upward along a substrate support, a substantially annular passage formed in the base, the inner wall or the base and the inner wall of the liner, the passage having an inlet and an outlet adapted to circulate a fluid therethrough, and a first and second bosses projecting from the base, the first boss comprising a hole in fluid communication with the passage at an inlet and the second boss comprising a hole in fluid communication with the passage at an outlet, as recited by claim 6.

Thus, claim 6 is patentable over *Shan* in view of *Masuda* and further in view of *Reimold*. Accordingly, the Applicants respectfully request that the rejection to claim 6 be withdrawn.

2. Claim 13

Claim 13 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Shan* in view of *Masuda* and further in view of *Reimold*. The Applicants respectfully disagree.

Shan and *Masuda* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 11, from which claim 13 depends. Furthermore, there is no motivation to combine *Shan, Masuda* and *Reimold* in a manner that would teach, show or suggest a chamber liner adapted to be removably disposed in a processing region and having a base for substantially covering the bottom of the processing chamber, a passage formed at least partially in the base (of the liner) and adapted to fluidly isolate a heat transfer fluid flowing therethrough from the processing region, and a first and second bosses projecting from the base, the first boss comprising a hole in fluid communication with the passage at an inlet and the second boss comprising a hole in fluid communication with the passage at an outlet, as recited by claim 13.

Thus, claim 13 is patentable over *Shan* in view of *Masuda* and further in view of *Reimold*. Accordingly, the Applicants respectfully request that the rejection to claim 13 be withdrawn.

3. Claim 27

Claim 27 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Shan* in view of *Masuda* and further in view of *Reimold*. The Applicants respectfully disagree.

Shan and *Masuda* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 25, from which claim 27 depends. Furthermore, there is no motivation to combine *Shan, Masuda* and *Reimold* in a manner that would teach, show or suggest a chamber liner having an annular base for substantially covering the bottom of the processing chamber, a first cylindrical wall extending from a perimeter of the base, a substantially annular passage formed at least partially in the base (of the liner) adapted to fluidly isolate a heat transfer fluid flowing therethrough from the processing region, and a first and second bosses projecting from the base, the first boss comprising a hole in fluid communication with the passage at an inlet and the second boss comprising a hole in fluid communication with the passage at an outlet, as recited by claim 27.

Thus, claim 27 is patentable over *Shan* in view of *Masuda* and further in view of *Reimold*. Accordingly, the Applicants respectfully request that the rejection to claim 27 be withdrawn.

J. 35 U.S.C. §103(a) Claims 24 and 32
Shan* in view of *Masuda* and further in view of *Banholzer

1. Claim 24

Claim 24 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Shan* in view of *Masuda* and further in view of *Banholzer*. The Applicants respectfully disagree.

As discussed above, *Shan* and *Masuda* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 11, from which claim 24 depends. Furthermore, there is no motivation to combine *Shan, Masuda* and *Banholzer* in a manner that would teach, show or suggest a chamber liner having an annular base for substantially covering the bottom of the processing chamber, a first cylindrical wall extending from a perimeter of the base, and a substantially annular passage formed at least partially in the base (of the liner), wherein the liner comprises a textured interior surface adapted to be exposed to the interior volume, as recited by claim 24.

Thus, claim 24 is patentable over *Shan* in view of *Masuda* and further in view of *Banholzer*. Accordingly, the Applicants respectfully request that the rejection to claim 24 be withdrawn.

2. Claim 32

Claim 32 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Shan* in view of *Masuda* and further in view of *Banholzer*. The Applicants respectfully disagree.

As discussed above, *Shan* and *Masuda* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 25, from which claim 32 depends. Furthermore, there is no motivation to combine *Shan, Masuda* and *Banholzer* in a manner that would teach, show or suggest a chamber liner having an annular base for substantially covering the bottom of the processing chamber, a first cylindrical wall extending from a perimeter of the base, a substantially annular passage formed at least partially in the base (of the liner) adapted to fluidly isolate a heat transfer fluid flowing therethrough from the processing region, wherein the first cylindrical wall comprises a textured interior surface adapted to be exposed to the interior volume, as recited by claim 32.

Thus, claim 32 is patentable over *Shan* in view of *Masuda* and further in view of *Banholzer*. Accordingly, the Applicants respectfully request that the rejection to claim 32 be withdrawn.

K. 35 U.S.C. §103(a) **Claims 7-10 and 36-39**

Shan* in view of *Miyamoto

1. Claims 7-10

Claims 7-10 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Shan* in view of United States Patent No. 5,846,331, issued December 8, 1998 to *Miyamoto* (hereinafter referred to as "*Miyamoto*"). The Applicants respectfully disagree.

Shan has been discussed above. *Miyamoto* teaches a plasma processing chamber having a bottom, sidewalls and a lid. The lid comprises a dielectric member having a plurality of concentric flow paths formed in therein. Conductive piping appears to run adjacent to the walls and bottom, and couples to the flow paths disposed through the lid. The conductive piping is adapted to circulate a hot conductive medium therethrough, in order to control the temperature of the lid.

Neither *Shan* nor *Miyamoto* teaches, shows or suggests circulation of a fluid through a passage in a liner adjacent the chamber lid. Thus, there is no motivation to combine *Shan* and *Miyamoto* in a manner that would teach, show or suggest all of the limitations of independent claim 7, from which claims 8-10 depend. In fact, *Miyamoto* teaches away from the liner disclosed by *Shan*, as *Shan* teaches prevention of film deposition on chamber walls by installing additional components (*i.e.*, shields) along the chamber walls and *Miyamoto* teaches the prevention of film deposition on a chamber lid by flowing a heated fluid through the lid itself. Furthermore, the lid of *Shan* does not teach protecting the lid from reaction product deposition, as a substantial portion of the underside of the aluminum lid is coupled to a gas distribution plate and thus very little surface area of the lid may be exposed.

Thus, there is no motivation to combine *Shan* and *Miyamoto* in a manner that would yield a chamber liner having a center member, a flange circumscribing the center member, a cylindrical wall projecting upward from the center member inside of the flange, and a substantially annular passage formed in the center

member and having an inlet and an outlet adapted to circulate a fluid therethrough, as recited by independent claim 7.

Thus, claim 7, and claims 8-10 that depend therefrom, are patentable over *Shan* in view of *Miyamoto* and further in view of *Banholzer*. Accordingly, the Applicants respectfully request that the rejection to claim 24 be withdrawn.

2. Claim 36

Claim 36 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Shan* in view of *Miyamoto*. The Applicants respectfully disagree.

As discussed above, *Shan* and *Miyamoto* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 36. Furthermore, there is no motivation to combine *Shan* and *Miyamoto* in a manner that would teach, show or suggest an apparatus for lining a processing region including a substantially annular passage at least partially formed in a center section (of the liner) adapted for substantially covering an upper surface of a processing chamber, as recited by claim 36.

Thus, claim 36 is patentable over *Shan* in view of *Masuda* and further in view of *Banholzer*. Accordingly, the Applicants respectfully request that the rejection to claim 36 be withdrawn.

3. Claims 37-39

Claims 37-39 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Shan* in view of *Miyamoto*. The Applicants respectfully disagree.

As discussed above, *Shan* and *Miyamoto* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 37, from which claims 38-39 depend. Furthermore, there is no motivation to combine *Shan* and *Miyamoto* in a manner that would teach, show or suggest a chamber liner having a center member for substantially covering an upper surface of the chamber, the center member having a first side adapted to be exposed to the processing region, a cylindrical wall extending from the center

member and adapted to line at least a portion of the walls of the chamber, and a substantially annular passage formed at least partially in the center member (of the liner), as recited by independent claim 37.

Thus, claim 37, and claims 38-39 that depend therefrom, are patentable over *Shan* in view of *Miyamoto*. Accordingly, the Applicants respectfully request that the rejection to claims 37-39 be withdrawn.

L. 35 U.S.C. §103(a) Claims 1-3, 5, 11-12, 14-17, 20-23, 25-26, 28-31, 33-35 and 38-39
Pu* in view of *Masuda

1. Claims 1-3 and 5

Claims 1-3 and 5 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Pu* in view of *Masuda*. The Applicants respectfully disagree.

Pu and *Masuda* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 1, from which claims 2-3 and 5 depend, nor is there motivation to combine *Pu* and *Masuda* to yield an apparatus embodying these limitations. *Pu* teaches a plasma processing chamber having a lid (*i*.e., a portion of the chamber body) that includes channels formed therein through which a dielectric cooling fluid can be pumped to regulate the lid temperature. *Pu* does not illustrate these channels or disclose any preferred shape, structure, size or number for the channels. *Masuda* teaches a jacket adapted to be disposed adjacent a chamber wall for regulating the temperature of the wall. A fluid is provided to a hollow space in the jacket via a pipe that extends through the wall to outside the chamber body.

There is no motivation to combine *Pu* and *Masuda* in a manner that would teach, show or suggest a chamber liner having a base for substantially covering a bottom of the chamber, an inner wall connected to the base for extending upward, and a substantially annular passage formed in the base, the inner wall or the base and the inner wall of the liner, the passage having an inlet

and an outlet adapted to circulate a fluid therethrough, as recited by independent claim 1.

Furthermore, the jacket taught by *Masuda* is provided a heat exchanging medium by means of a pipe that extends through a sidewall of the chamber from an outside environment. Such a medium supply means is only effective for providing the medium to a jacket disposed against the sidewall. In order to similarly provide the heat exchanging medium to an inner liner wall that is disposed against a substrate support, the pipe would have to extend not only through the sidewall, but through a portion of the processing volume. Thus, the pipe could interfere with other chamber components and would be subjected to plasma and other processing materials that may corrode the pipe, leading to wear and/or failure of the liner system.

Thus, independent claim 1, and claims 2-3 and 5 that depend therefrom, are patentable over *Pu* in view of *Masuda*. Accordingly, the Applicants respectfully request that the rejection to claims 1-3 and 5 be withdrawn.

2. Claims 7-10

Claims 7-10 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Pu* in view of *Masuda*. The Applicants respectfully disagree.

Pu and *Masuda* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 7, from which claims 8-10 depend. There is no motivation to combine *Pu* and *Masuda* in a manner that would teach, show or suggest a chamber liner having a center member, a flange circumscribing the center member, a cylindrical wall projecting upward from the center member inside of the flange, and a substantially annular passage formed in the center member and having an inlet and an outlet adapted to circulate a fluid therethrough, as recited by independent claim 7.

Thus, independent claim 7, and claims 8-10 that depend therefrom, are patentable over *Pu* in view of *Masuda*. Accordingly, the Applicants respectfully request that the rejection to claims 7-10 be withdrawn.

3. Claims 11-12, 14-17 and 20-23

Claims 11-12, 14-17 and 20-23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Pu* in view of *Masuda*. The Applicants respectfully disagree.

Pu and *Masuda* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 11, from which claims 12, 14-17 and 20-23 depend. There is no motivation to combine *Pu* and *Masuda* in a manner that would teach, show or suggest a chamber liner adapted to be removably disposed in a processing region and having a base for substantially covering the bottom of the processing chamber and a passage formed at least partially in the base (of the liner) and adapted to fluidly isolate a heat transfer fluid flowing therethrough from the processing region, as recited by independent claim 11.

Thus, independent claim 11, and claims 12, 14-17 and 20-23 that depend therefrom, are patentable over *Pu* in view of *Masuda*. Accordingly, the Applicants respectfully request that the rejection to claims 11-12, 14-17 and 20-23 be withdrawn.

4. Claims 25-26 and 28-31

Claims 25-26 and 28-31 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Pu* in view of *Masuda*. The Applicants respectfully disagree.

Pu and *Masuda* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 25, from which claims 26 and 28-31 depend. There is no motivation to combine *Pu* and *Masuda* in a manner that would teach, show or suggest a chamber liner having an annular base for substantially covering the bottom of the processing chamber, a first cylindrical wall extending from a perimeter of the base, and a substantially annular passage formed at least partially in the base (of the liner), as recited by independent claim 25.

Thus, independent claim 25, and claims 26 and 28-31 that depend therefrom, are patentable over *Pu* in view of *Masuda*. Accordingly, the

Applicants respectfully request that the rejection to claims 25-26 and 28-31 be withdrawn.

5. Claims 33-35

Claims 33-35 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Pu* in view of *Masuda*. The Applicants respectfully disagree.

Pu and *Masuda* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 33, from which claims 34-35 depend. There is no motivation to combine *Pu* and *Masuda* in a manner that would teach, show or suggest a chamber liner having an annular base for substantially covering the bottom of the processing chamber, a first cylindrical wall coupled to an outer portion of the base for extending into the processing region along the sidewalls of the chamber, a second cylindrical wall coupled to an inner portion of the base for extending into the processing region along a substrate support positioned therein, and a substantially annular passage formed at least partially in the base (of the liner), as recited by independent claim 33.

Thus, independent claim 33, and claims 34-35 that depend therefrom, are patentable over *Pu* in view of *Masuda*. Accordingly, the Applicants respectfully request that the rejection to claims 33-35 be withdrawn.

6. Claim 36

Claim 36 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Pu* in view of *Masuda*. The Applicants respectfully disagree.

Pu and *Masuda* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 36. There is no motivation to combine *Pu* and *Masuda* in a manner that would teach, show or suggest a chamber liner having a cylindrical wall adapted to line at least a portion of the walls of the chamber, a center member coupled to one end of the cylindrical wall for substantially covering an upper surface of the chamber, and a substantially annular passage at least partially formed in the center member (of the liner), as recited by independent claim 36.

Thus, independent claim 36 is patentable over *Pu* in view of *Masuda*. Accordingly, the Applicants respectfully request that the rejection to claim 36 be withdrawn.

7. Claims 37-39

Claims 37-39 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Pu* in view of *Masuda*. The Applicants respectfully disagree.

Pu and *Masuda* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 37, from which claims 38-39 depend. There is no motivation to combine *Pu* and *Masuda* in a manner that would teach, show or suggest a chamber liner having a center member for substantially covering an upper surface of the chamber, the center member having a first side adapted to be exposed to the processing region, a cylindrical wall extending from the center member and adapted to line at least a portion of the walls of the chamber, and a substantially annular passage formed at least partially in the center member (of the liner), as recited by independent claim 37.

Thus, independent claim 37, and claims 38-39 that depend therefrom, are patentable over *Pu* in view of *Masuda*. Accordingly, the Applicants respectfully request that the rejection to claims 37-39 be withdrawn.

M. 35 U.S.C. §103(a) Claims 4 and 18-19
Pu* in view of *Masuda* and further in view of *Collins

1. Claim 4

Claim 4 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Pu* in view of *Masuda* and further in view of *Collins*. The Applicants respectfully disagree.

As discussed above, whereas *Pu* and *Masuda* are concerned with reducing the amount of plasma deposition on the walls and/or pedestal of the chamber, *Collins* is concerned with confining the plasma deposition area to

prevent plasma from traveling to certain portions of the chamber (*i.e.*, prevent plasma from escaping the chamber or depositing on ports to the chamber exterior). Therefore, the magnets taught by *Collins* would not necessarily provide any benefit to or enhancement of the advantages sought by the teachings of *Pu* and *Masuda*.

As discussed above, *Pu* and *Masuda* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 1, from which claim 4 depends. Furthermore, there is no motivation to combine *Pu, Masuda* and *Collins* in a manner that would teach, show or suggest a chamber liner having a base for substantially covering a bottom of the chamber, an inner wall connected to the base for extending upward against a substrate support, a substantially annular passage formed in the base, the inner wall or the base and the inner wall of the liner, the passage being adapted to circulate a fluid therethrough, and a magnet disposed in the inner wall of the liner, as recited by claim 4.

Thus, claim 4 is patentable over *Pu* in view of *Masuda* and further in view of *Collins*. Accordingly, the Applicants respectfully request that the rejection to claim 4 be withdrawn.

2. Claims 18-19

Claims 18-19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Pu* in view of *Masuda* and further in view of *Collins*. The Applicants respectfully disagree.

As discussed above, *Pu* and *Masuda* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 11, from which claims 18-19 depend. Furthermore, there is no motivation to combine *Pu, Masuda* and *Collins* in a manner that would teach, show or suggest a chamber liner adapted to be removably disposed in a processing region and having a base for substantially covering the bottom of the processing chamber, a passage formed at least partially in the base (of the liner) and adapted to fluidly isolate a heat transfer fluid flowing therethrough from the processing region, and

a cylindrical wall comprising a magnet disposed therein (*i.e.*, in the cylindrical wall of the liner), as recited by claim 18. Likewise, there is no motivation to combine *Pu*, *Masuda* and *Collins* in a manner that would teach, show or suggest that the cylindrical wall comprises a lip extending into the process volume and a magnet disposed therein, as recited by claim 19.

Thus, claims 18-19 are patentable over *Pu* in view of *Masuda* and further in view of *Collins*. Accordingly, the Applicants respectfully request that the rejection to claims 18-19 be withdrawn.

N. 35 U.S.C. §103(a) Claims 6, 13 and 27
Pu* in view of *Masuda* and further in view of *Reimold

1. Claim 6

Claim 6 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Pu* in view of *Masuda* and further in view of *Reimold*. The Applicants respectfully disagree.

As discussed above, *Pu* and *Masuda* do not teach the use of a mechanical heat exchanger *per se* in a processing chamber. Rather, *Pu* and *Masuda* teach flowing a heat exchanging fluid through a portion of a chamber body, or through a jacket positioned adjacent to a portion of the chamber body. As the heating exchanging fluid is confined to a single area (*i.e.*, a channel or a jacket), there is little need for a heat exchanger such as that described by *Reimold*, in which a plurality of bosses are provided for establishing a plurality of connection to other components. Therefore, the heat exchanger taught by *Reimold* would not necessarily provide any benefit to or enhancement of the advantages sought by the teachings of *Pu* and *Masuda*.

As discussed above, *Pu* and *Masuda* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 1, from which claim 6 depends. Furthermore, there is no motivation to combine *Pu*, *Masuda* and *Reimold* in a manner that would teach, show or suggest a chamber liner having a base for substantially covering a bottom of the chamber, an inner

wall connected to the base for extending upward along a substrate support, a substantially annular passage formed in the base, the inner wall or the base and the inner wall of the liner, the passage being adapted to circulate a fluid therethrough, and a first and second bosses projecting from the base, the first boss comprising a hole in fluid communication with the passage at an inlet and the second boss comprising a hole in fluid communication with the passage at an outlet, as recited by claim 6.

Thus, claim 6 is patentable over *Pu* in view of *Masuda* and further in view of *Reimold*. Accordingly, the Applicants respectfully request that the rejection to claim 6 be withdrawn.

2. Claim 13

Claim 13 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Pu* in view of *Masuda* and further in view of *Reimold*. The Applicants respectfully disagree.

As discussed above, *Pu* and *Masuda* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 11, from which claim 13 depends. Furthermore, there is no motivation to combine *Pu*, *Masuda* and *Reimold* in a manner that would teach, show or suggest a chamber liner adapted to be removably disposed in a processing region and having a base for substantially covering the bottom of the processing chamber, a passage formed at least partially in the base (of the liner) and adapted to fluidly isolate a heat transfer fluid flowing therethrough from the processing region, and a first and second bosses projecting from the base, the first boss comprising a hole in fluid communication with the passage at an inlet and the second boss comprising a hole in fluid communication with the passage at an outlet, as recited by claim 13.

Thus, claim 13 is patentable over *Pu* in view of *Masuda* and further in view of *Reimold*. Accordingly, the Applicants respectfully request that the rejection to claim 13 be withdrawn.

3. Claim 27

Claim 27 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Pu* in view of *Masuda* and further in view of *Reimold*. The Applicants respectfully disagree.

Pu and *Masuda* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 25, from which claim 27 depends. Furthermore, there is no motivation to combine *Pu, Masuda* and *Reimold* in a manner that would teach, show or suggest a chamber liner having an annular base for substantially covering the bottom of the processing chamber, a first cylindrical wall extending from a perimeter of the base, a substantially annular passage formed at least partially in the base (of the liner) adapted to fluidly isolate a heat transfer fluid flowing therethrough from the processing region, and a first and second bosses projecting from the base, the first boss comprising a hole in fluid communication with the passage at an inlet and the second boss comprising a hole in fluid communication with the passage at an outlet, as recited by claim 27.

Thus, claim 27 is patentable over *Pu* in view of *Masuda* and further in view of *Reimold*. Accordingly, the Applicants respectfully request that the rejection to claim 27 be withdrawn.

O. 35 U.S.C. §103(a) Claims 24 and 32
Pu* in view of *Masuda* and further in view of *Banholzer

1. Claim 24

Claim 24 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Pu* in view of *Masuda* and further in view of *Banholzer*. The Applicants respectfully disagree.

As discussed, *Pu* and *Masuda* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 11, from which claim 24 depends. Furthermore, *Banholzer* actually teaches away from *Pu*, as *Pu* teaches a means for preventing or reducing reaction product deposition on a

portion of a chamber body, and *Banholzer* teaches a means for increasing reaction product adhesion to a lid or shield. Furthermore, there is no motivation to combine *Pu, Masuda* and *Banholzer* in a manner that would teach, show or suggest a chamber liner having an annular base for substantially covering the bottom of the processing chamber, a first cylindrical wall extending from a perimeter of the base, and a substantially annular passage formed at least partially in the base (of the liner), wherein the liner comprises a textured interior surface adapted to be exposed to the interior volume, as recited by claim 24.

Thus, claim 24 is patentable over *Pu* in view of *Masuda* and further in view of *Banholzer*. Accordingly, the Applicants respectfully request that the rejection to claim 24 be withdrawn.

2. Claim 32

Claim 32 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Pu* in view of *Masuda* and further in view of *Banholzer*. The Applicants respectfully disagree.

As discussed above, *Pu* and *Masuda* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 25, from which claim 32 depends. Furthermore, there is no motivation to combine *Pu, Masuda* and *Banholzer* in a manner that would teach, show or suggest a chamber liner having an annular base for substantially covering the bottom of the processing chamber, a first cylindrical wall extending from a perimeter of the base, a substantially annular passage formed at least partially in the base (of the liner) adapted to fluidly isolate a heat transfer fluid flowing therethrough from the processing region, wherein the first cylindrical wall comprises a textured interior surface adapted to be exposed to the interior volume, as recited by claim 32.

Thus, claim 32 is patentable over *Pu* in view of *Masuda* and further in view of *Banholzer*. Accordingly, the Applicants respectfully request that the rejection to claim 32 be withdrawn.

P. 35 U.S.C. §103(a) Claims 7-10 and 38-39

Pu* in view of *Shan* and further in view of *Miyamoto

1. Claims 7-10

Claims 7-10 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Pu* in view of *Shan* and further in view of *Miyamoto*. The Applicants respectfully disagree.

Pu, *Shan* and *Miyamoto* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 7, from which claims 8-10 depend. *Pu* and *Miyamoto* both address the need to prevent reaction product deposition on a chamber lid, and provide the lid with channels formed therein (*i.e.*, formed in the lid) in which to flow a fluid to regulate the lid temperature and prevent deposition thereon. *Shan* addresses deposition on chamber walls and on a substrate support, and provides a pair of shields that adapted to cover the chamber wall and the substrate to prevent deposition thereom. Thus, *Pu* and *Miyamoto* teach away from a combination with Shan, as *Pu* and *Miyamoto* teach deposition prevention from the inside (*i.e.*, inside the structure of the chamber body), while *Shan* teaches deposition prevention from the outside (*i.e.*, a component positioned to cover the chamber body).

Thus, there is no motivation to combine *Pu*, *Shan* and *Miyamoto* in a manner that would teach, show or suggest a chamber liner having a center member, a flange circumscribing the center member, a cylindrical wall projecting upward from the center member inside of the flange, and a substantially annular passage formed in the center member and having an inlet and an outlet adapted to circulate a fluid therethrough, as recited by independent claim 7.

Thus, independent claim 7, and claims 8-10 that depend therefrom, are patentable over *Pu* in view of *Shan* and further in view of *Miyamoto*. Accordingly, the Applicants respectfully request that the rejection to claims 7-10 be withdrawn.

2. Claims 38-39

Claims 38-39 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Pu* in view of *Shan* and further in view of *Miyamoto*. The Applicants respectfully disagree.

Pu, *Shan* and *Miyamoto* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 37, from which claims 38-39 depend. As discussed, *Pu* and *Miyamoto* teach away from a combination with Shan, as *Pu* and *Miyamoto* teach deposition prevention from the inside (*i.e.*, inside the structure of the chamber body), while *Shan* teaches deposition prevention from the outside (*i.e.*, a component positioned to cover the chamber body).

Thus, there is no motivation to combine *Pu*, *Shan* and *Miyamoto* in a manner that would teach, show or suggest a chamber liner having a center member for substantially covering an upper surface of the chamber, the center member having a first side adapted to be exposed to the processing region, a cylindrical wall extending from the center member and adapted to line at least a portion of the walls of the chamber, a substantially annular passage formed at least partially in the center member (of the liner), and a lid disposed proximate the center member and defining a plenum at least partially therewith, as recited by claim 38. Neither do *Pu*, *Shan* and *Miyamoto* teach, show or suggest that the center member comprises a plurality of nozzles disposed in the center member and providing fluid access between the plenum and a side of the center member opposite the lid, as recited by claim 39.

Thus, claims 38 and 39 are patentable over *Pu* in view of *Shan* and further in view of *Miyamoto*. Accordingly, the Applicants respectfully request that the rejection to claims 38 and 39 be withdrawn.

Q. 35 U.S.C. §103(a) Claims 1-3, 5, 11-12, 14-17, 20-23, 25-26, 28-31, 33-35 and 38-39
Pu* in view of *Lee

1. Claims 1-3 and 5

Claims 1-3 and 5 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Pu* in view of *Lee*. The Applicants respectfully disagree.

Pu and *Lee* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 1, from which claims 2-3 and 5 depend, nor is there motivation to combine *Pu* and *Lee* to yield an apparatus embodying these limitations. *Pu* teaches a plasma processing chamber having a lid (*i.e.*, a portion of the chamber body) that includes channels formed therein through which a dielectric cooling fluid can be pumped to regulate the lid temperature. *Pu* does not illustrate these channels or disclose any preferred shape, structure, size or number for the channels. *Lee* teaches a channel formed in a chamber bottom for regulating the bottom temperature to prevent deposition thereon. Thus, *Lee* teaches away from combination with *Pu*, as *Pu* teaches deposition prevention on the lid and *Lee* teaches deposition prevention on the bottom. Furthermore, both references teach forming channels in a portion of the chamber body itself to flow a fluid therethrough. In addition, neither reference teaches deposition prevention on a substrate support.

Thus, there is no motivation to combine *Pu* and *Lee* in a manner that would teach, show or suggest a chamber liner having a base for substantially covering a bottom of the chamber, an inner wall connected to the base for extending upward against a substrate support disposed in the processing volume and a substantially annular passage formed in the base, the inner wall or the base and the inner wall of the liner, the passage having an inlet and an outlet adapted to circulate a fluid therethrough, as recited by independent claim 1.

Thus, independent claim 1, and claims 2-3 and 5 that depend therefrom, are patentable over *Pu* in view of *Lee*. Accordingly, the Applicants respectfully request that the rejection to claims 1-3 and 5 be withdrawn.

2. Claims 7-10

Claims 7-10 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Pu* in view of *Lee*. The Applicants respectfully disagree.

Pu and *Lee* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 7, from which claims 8-10 depend. There is no motivation to combine *Pu* and *Lee* in a manner that would teach, show or suggest a chamber liner having a center member, a flange circumscribing the center member, a cylindrical wall projecting upward from the center member inside of the flange, and a substantially annular passage formed in the center member and having an inlet and an outlet adapted to circulate a fluid therethrough, as recited by independent claim 7.

Thus, independent claim 7, and claims 8-10 that depend therefrom, are patentable over *Pu* in view of *Lee*. Accordingly, the Applicants respectfully request that the rejection to claims 7-10 be withdrawn.

3. Claims 11-12, 14-17 and 20-23

Claims 11-12, 14-17 and 20-23 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Pu* in view of *Lee*. The Applicants respectfully disagree.

Pu and *Lee* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 11, from which claims 12, 14-17 and 20-23 depend. There is no motivation to combine *Pu* and *Lee* in a manner that would teach, show or suggest a chamber liner adapted to be removably disposed in a processing region and having a base for substantially covering the bottom of the processing chamber and a passage formed at least partially in the base (of the liner) and adapted to fluidly isolate a heat transfer fluid flowing therethrough from the processing region, as recited by independent claim 11.

Thus, independent claim 11, and claims 12, 14-17 and 20-23 that depend therefrom, are patentable over *Pu* in view of *Lee*. Accordingly, the Applicants respectfully request that the rejection to claims 11-12, 14-17 and 20-23 be withdrawn.

4. Claims 25-26 and 28-31

Claims 25-26 and 28-31 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Pu* in view of *Lee*. The Applicants respectfully disagree.

Pu and *Lee* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 25, from which claims 26 and 28-31 depend. There is no motivation to combine *Pu* and *Lee* in a manner that would teach, show or suggest a chamber liner having an annular base for substantially covering the bottom of the processing chamber, a first cylindrical wall extending from a perimeter of the base, and a substantially annular passage formed at least partially in the base (of the liner), as recited by independent claim 25.

Thus, independent claim 25, and claims 26 and 28-31 that depend therefrom, are patentable over *Pu* in view of *Lee*. Accordingly, the Applicants respectfully request that the rejection to claims 25-26 and 28-31 be withdrawn.

5. Claims 33-35

Claims 33-35 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Pu* in view of *Lee*. The Applicants respectfully disagree.

Pu and *Lee* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 33, from which claims 34-35 depend. There is no motivation to combine *Pu* and *Lee* in a manner that would teach, show or suggest a chamber liner having an annular base for substantially covering the bottom of the processing chamber, a first cylindrical wall coupled to an outer portion of the base for extending into the processing region along the sidewalls of the chamber, a second cylindrical wall coupled to an inner portion of the base for extending into the processing region along a substrate support positioned therein, and a substantially annular passage formed at least partially in the base (of the liner), as recited by independent claim 33.

Thus, independent claim 33, and claims 34-35 that depend therefrom, are patentable over *Pu* in view of *Lee*. Accordingly, the Applicants respectfully request that the rejection to claims 33-35 be withdrawn.

6. Claim 36

Claim 36 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Pu* in view of *Lee*. The Applicants respectfully disagree.

Pu and *Lee* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 36. There is no motivation to combine *Pu* and *Lee* in a manner that would teach, show or suggest a chamber liner having a cylindrical wall adapted to line at least a portion of the walls of the chamber, a center section coupled to one end of the cylindrical wall for substantially covering an upper surface of the chamber, and a substantially annular passage at least partially formed in the center section (of the liner), as recited by independent claim 36.

Thus, independent claim 36 is patentable over *Pu* in view of *Lee*. Accordingly, the Applicants respectfully request that the rejection to claim 36 be withdrawn.

7. Claims 37-39

Claims 37-39 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Pu* in view of *Lee*. The Applicants respectfully disagree.

Pu and *Lee* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 37, from which claims 38-39 depend. There is no motivation to combine *Pu* and *Lee* in a manner that would teach, show or suggest a chamber liner having a center member for substantially covering an upper surface of the chamber, the center member having a first side adapted to be exposed to the processing region, a cylindrical wall extending from the center member and adapted to line at least a portion of the walls of the chamber, and a substantially annular passage formed at least partially in the center member (of the liner), as recited by independent claim 37.

Thus, independent claim 37, and claims 38-39 that depend therefrom, are patentable over *Pu* in view of *Lee*. Accordingly, the Applicants respectfully request that the rejection to claims 37-39 be withdrawn.

R. 35 U.S.C. §103(a) Claims 4 and 18-19
Pu* in view of *Lee* and further in view of *Collins

1. Claim 4

Claim 4 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Pu* in view of *Lee* and further in view of *Collins*. The Applicants respectfully disagree.

Where *Pu* and *Lee* are concerned with reducing the amount of plasma deposition on the lid and bottom of the chamber, *Collins* is concerned with confining the plasma deposition area to prevent plasma from traveling to certain portions of the chamber (*i.e.*, prevent plasma from escaping the chamber or depositing on ports to the chamber exterior). Therefore, the magnets taught by *Collins* would not necessarily provide any benefit to or enhancement of the advantages sought by the teachings of *Pu* and *Lee*.

As discussed above, *Pu* and *Lee* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 1, from which claim 4 depends. Furthermore, there is no motivation to combine *Pu*, *Lee* and *Collins* in a manner that would teach, show or suggest a chamber liner having a base for substantially covering a bottom of the chamber, an inner wall connected to the base for extending upward against a substrate support, a substantially annular passage formed in the base, the inner wall or the base and the inner wall of the liner, the passage having an inlet and an outlet adapted to circulate a fluid therethrough, and a magnet disposed in the inner wall of the liner, as recited by claim 4.

Thus, claim 4 is patentable over *Pu* in view of *Lee* and further in view of *Collins*. Accordingly, the Applicants respectfully request that the rejection to claim 4 be withdrawn.

2. Claims 18-19

Claims 18-19 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Pu* in view of *Lee* and further in view of *Collins*. The Applicants respectfully disagree.

As discussed above, *Pu* and *Lee* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 11, from which claims 18-19 depend. Furthermore, there is no motivation to combine *Pu*, *Lee* and *Collins* in a manner that would teach, show or suggest a chamber liner adapted to be removably disposed in a processing region and having a base for substantially covering the bottom of the processing chamber, a passage formed at least partially in the base (of the liner) and adapted to fluidly isolate a heat transfer fluid flowing therethrough from the processing region, and a cylindrical wall comprising a magnet disposed therein (*i.e.*, in the cylindrical wall of the liner), as recited by claim 18. Likewise, there is no motivation to combine *Pu*, *Lee* and *Collins* in a manner that would teach, show or suggest that the cylindrical wall comprises a lip extending into the process volume and a magnet disposed therein, as recited by claim 19.

Thus, claims 18-19 are patentable over *Pu* in view of *Lee* and further in view of *Collins*. Accordingly, the Applicants respectfully request that the rejection to claims 18-19 be withdrawn.

S. 35 U.S.C. §103(a) Claims 6, 13 and 27
Pu* in view of *Lee* and further in view of *Reimold

1. Claim 6

Claim 6 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Pu* in view of *Lee* and further in view of *Reimold*. The Applicants respectfully disagree.

Pu and *Lee*, as discussed, do not teach the use of a mechanical heat exchanger *per se* in a processing chamber. Rather, *Pu* and *Lee* teach channels formed in portions of the chamber body for flowing a fluid therethrough. As the

fluid is confined to the channels within the chamber body, there is little need for a heat exchanger such as that described by *Reimold*, in which a plurality of bosses are provided for establishing a plurality of connection to other components. Therefore, the heat exchanger taught by *Reimold* would not necessarily provide any benefit to or enhancement of the advantages sought by the teachings of *Pu* and *Lee*.

As discussed above, *Pu* and *Lee* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 1, from which claim 6 depends. Furthermore, there is no motivation to combine *Pu, Lee* and *Reimold* in a manner that would teach, show or suggest a chamber liner having a base for substantially covering a bottom of the chamber, an inner wall connected to the base and extending upward along a substrate support, a substantially annular passage formed in the base, the inner wall or the base and the inner wall of the liner, the passage having an inlet and an outlet adapted to circulate a fluid therethrough, and a first and second bosses projecting from the base, the first boss comprising a hole in fluid communication with the passage at an inlet and the second boss comprising a hole in fluid communication with the passage at an outlet, as recited by claim 6.

Thus, claim 6 is patentable over *Pu* in view of *Lee* and further in view of *Reimold*. Accordingly, the Applicants respectfully request that the rejection to claim 6 be withdrawn.

2. Claim 13

Claim 13 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Pu* in view of *Lee* and further in view of *Reimold*. The Applicants respectfully disagree.

Pu and *Lee a* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 11, from which claim 13 depends. Furthermore, there is no motivation to combine *Pu, Lee* and *Reimold* in a manner that would teach, show or suggest a chamber liner adapted to be removably disposed in a processing region and having a base for substantially

covering the bottom of the processing chamber, a passage formed at least partially in the base (of the liner) and adapted to fluidly isolate a heat transfer fluid flowing therethrough from the processing region, and a first and second bosses projecting from the base, the first boss comprising a hole in fluid communication with the passage at an inlet and the second boss comprising a hole in fluid communication with the passage at an outlet, as recited by claim 13.

Thus, claim 13 is patentable over *Pu* in view of *Lee* and further in view of *Reimold*. Accordingly, the Applicants respectfully request that the rejection to claim 13 be withdrawn.

3. Claim 27

Claim 27 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Pu* in view of *Lee* and further in view of *Reimold*. The Applicants respectfully disagree.

Pu and *Lee* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 25, from which claim 27 depends. Furthermore, there is no motivation to combine *Pu, Lee* and *Reimold* in a manner that would teach, show or suggest a chamber liner having an annular base for substantially covering the bottom of the processing chamber, a first cylindrical wall extending from a perimeter of the base, a substantially annular passage formed at least partially in the base (of the liner) adapted to fluidly isolate a heat transfer fluid flowing therethrough from the processing region, and a first and second bosses projecting from the base, the first boss comprising a hole in fluid communication with the passage at an inlet and the second boss comprising a hole in fluid communication with the passage at an outlet, as recited by claim 27.

Thus, claim 27 is patentable over *Pu* in view of *Lee* and further in view of *Reimold*. Accordingly, the Applicants respectfully request that the rejection to claim 27 be withdrawn.

T. 35 U.S.C. §103(a) Claims 24 and 32

Pu* in view of *Lee* and further in view of *Banholzer

1. Claim 24

Claim 24 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Pu* in view of *Lee* and further in view of *Banholzer*. The Applicants respectfully disagree.

As discussed above, *Pu* and *Lee* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 11, from which claim 24 depends. Furthermore, *Banholzer* teaches away from *Pu* and *Lee*, as *Pu* and *Lee* teach means to prevent or reduce reaction product deposition on portions of the chamber body, and *Banholzer* actually teaches a means for increasing reaction product adhesion to a shield or lid. Thus, there is no motivation to combine *Pu, Lee* and *Banholzer* in a manner that would teach, show or suggest a chamber liner having an annular base for substantially covering the bottom of the processing chamber, a first cylindrical wall extending from a perimeter of the base, and a substantially annular passage formed at least partially in the base (of the liner), wherein the liner comprises a textured interior surface adapted to be exposed to the interior volume, as recited by claim 24.

Thus, claim 24 is patentable over *Pu* in view of *Lee* and further in view of *Banholzer*. Accordingly, the Applicants respectfully request that the rejection to claim 24 be withdrawn.

2. Claim 32

Claim 32 stands rejected under 35 U.S.C. §103(a) as being unpatentable over *Pu* in view of *Lee* and further in view of *Banholzer*. The Applicants respectfully disagree.

As discussed above, *Pu* and *Lee* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 25, from which claim 32 depends. Furthermore, there is no motivation to combine *Pu, Lee* and *Banholzer* in a manner that would teach, show or suggest a chamber liner having

an annular base for substantially covering the bottom of the processing chamber, a first cylindrical wall extending from a perimeter of the base, a substantially annular passage formed at least partially in the base (of the liner) adapted to fluidly isolate a heat transfer fluid flowing therethrough from the processing region, wherein the first cylindrical wall comprises a textured interior surface adapted to be exposed to the interior volume, as recited by claim 32.

Thus, claim 32 is patentable over *Pu* in view of *Lee* and further in view of *Banholzer*. Accordingly, the Applicants respectfully request that the rejection to claim 32 be withdrawn.

U. 35 U.S.C. §103(a) Claims 7-10 and 38-39
Pu* in view of Shan and further in view of *Masuda

1. Claims 7-10

Claims 7-10 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Pu* in view of *Shan* and further in view of *Masuda*. The Applicants respectfully disagree.

Pu, *Shan* and *Masuda* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 7, from which claims 8-10 depend. *Pu* addresses the need to prevent reaction product deposition on a chamber lid by providing means in the lid through which in a fluid may be flowed to regulate the lid temperature. *Shan* and *Masuda* address deposition on chamber walls by providing means for covering portions of the walls, and *Masuda* provides a jacket having a hollow volume connected to a pipe that extends through the chamber wall for filling the jacket with a heat-exchanging medium. Thus, *Shan* and *Masuda* teach away from a combination with *Pu*, as *Pu* teaches deposition prevention from the inside (*i.e.*, inside the structure of the chamber body), while *Shan* and *Masuda* teach deposition prevention from the outside (*i.e.*, a component positioned to cover the chamber body).

Thus, there is no motivation to combine *Pu, Shan* and *Masuda* in a manner that would teach, show or suggest a chamber liner having a center member, a flange circumscribing the center member, a cylindrical wall projecting upward from the center member inside of the flange, and a substantially annular passage formed in the center member and having an inlet and an outlet adapted to circulate a fluid therethrough, as recited by independent claim 7.

Thus, independent claim 7, and claims 8-10 that depend therefrom, are patentable over *Pu* in view of *Shan* and further in view of *Masuda*. Accordingly, the Applicants respectfully request that the rejection to claims 7-10 be withdrawn.

2. Claims 38-39

Claims 38-39 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Pu* in view of *Shan* and further in view of *Masuda*. The Applicants respectfully disagree.

Pu, Shan and *Masuda* do not, individually or in combination, teach, show or suggest all of the limitations of independent claim 37, from which claims 38-39 depend. As discussed above, *Shan* and *Masuda* teach away from a combination with *Pu*.

Thus, there is no motivation to combine *Pu, Shan* and *Masuda* in a manner that would teach, show or suggest a chamber liner having a center member for substantially covering an upper surface of the chamber, the center member having a first side adapted to be exposed to the processing region, a cylindrical wall extending from the center member and adapted to line at least a portion of the walls of the chamber, a substantially annular passage formed at least partially in the center member (of the liner), and a lid disposed proximate the center member and defining a plenum at least partially therewith, as recited by claim 38. Neither do *Pu, Shan* and *Masuda* teach, show or suggest that the center member comprises a plurality of nozzles disposed in the center member and providing fluid access between the plenum and a side of the center member opposite the lid, as recited by claim 39.

Thus, claims 38 and 39 are patentable over *Pu* in view of *Shan* and further in view of *Masuda*. Accordingly, the Applicants respectfully request that the rejection to claims 38 and 39 be withdrawn.
rejection to this claim be withdrawn.

CONCLUSION

The Applicants submit that all claims now pending are in condition for allowance. Accordingly, both reconsideration of this application and swift passage to issue are earnestly solicited.

If the Examiner believes that any unresolved issues still exist, it is requested that the Examiner telephone Keith Taboada at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Dec 15, 2003

Respectfully submitted,

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Printed Name of Person Signing

Dec 15 2003
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